

# V46

V46 121.412 class800 DN3/8" – DN2"  
Globe valve socket welding SW



**Size :** DN 10 to 50 (NPS 3/8" to 2")  
**Ends :** Female - Female BSP or NPT, Socket Welding  
**Min Temperature :** - 29°C  
**Max Temperature :** + 538°C for SS (+ 425°C for carbon steel)  
**Max Pressure :** 138 Bars (Class 800)  
**Specifications :** Rising rotating stem (OS&Y)  
Bolted bonnet and gland pack  
Standard port

**Materials :** Carbon steel or Stainless steel

### SPECIFICATIONS :

- Respect the flow direction ( indicated by the arrow )
- Standard port
- Rising rotating stem (OS&Y)
- Bolted bonnet and gland pack
- Forged Carbon steel or stainless steel
- ½ stellite ( Trim 8 ) for carbon steel valves
- Trim 10 standard SS 316 for stainless steel types
- Class 800

### USE :

- Petroleum industry, steam, high pressure
- Min and max Temperature Ts : - 29°C to + 538°C for SS types Ref.452/453
- Min and max Temperature Ts : - 29°C to + 425°C for carbon steel types Ref. 412/413/414
- Max Pressure Ps : 138 bars ( see graph )

### FLOW COEFFICIENT Kvs ( M3 / h ) :

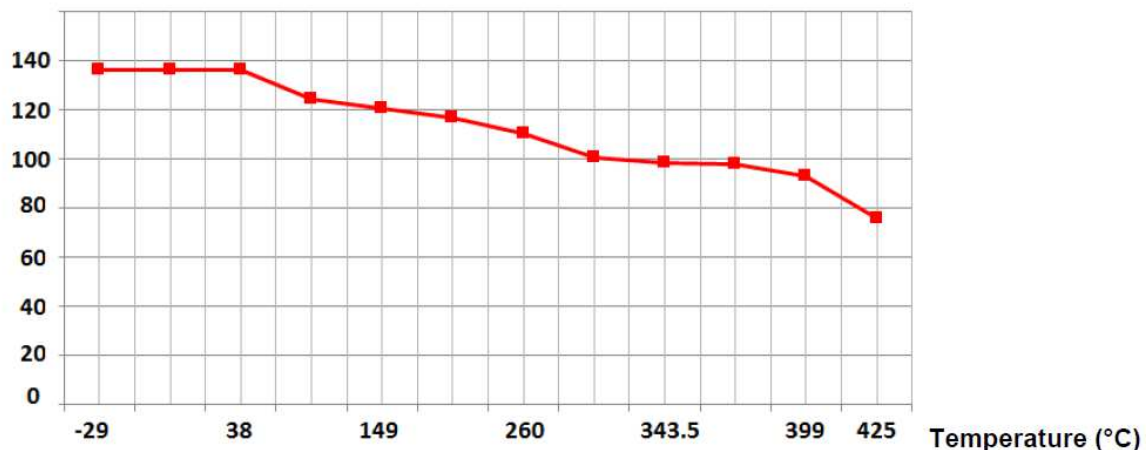
DN	10	15	20	25	32	40	50
NPS	3/8"	1/2"	3/4"	1"	1"1/4	1"1/2	2"
Kvs ( m3/h )	1.2	1.3	3.3	5.9	9.5	12.4	21.6

### PRESSURE / TEMPERATURE RELATION FOR CARBON STEEL VALVES REF. 412/413/414 :

Pressure (bar)	136.2	136.2	136.2	124,1	120,7	116,6	110	100,7	98,6	97,9	92,7	75,9
Temperature (°C)	-29	0	38	93,5	149	204,5	260	315,5	343,5	371	399	425

### PRESSURE / TEMPERATURE GRAPH FOR CARBON STEEL VALVES REF. 412/413/414 :

Pressure (Bars)



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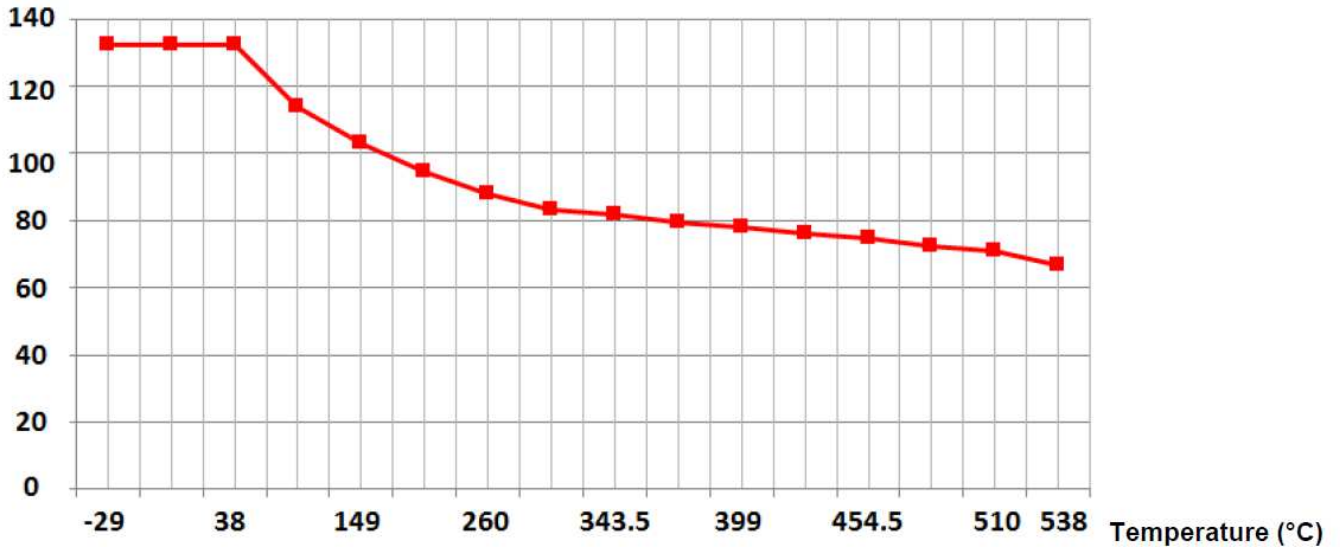
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PRESSURE / TEMPERATURE RELATION FOR STAINLESS STEEL VALVES REF. 452/453 :

Pressure (bar)	132.4	132.4	132.4	114.1	103.1	94.5	87.9	83.1	81.7	79.3	77.9	76.2	74.5	72.4	71	66.9
Temperature (°C)	-29	0	38	93,5	149	204,5	260	315,5	343,5	371	399	425	454.5	482	510	538

PRESSURE / TEMPERATURE GRAPH FOR STAINLESS STEEL VALVES REF. 452/453 :

Pressure (Bars)



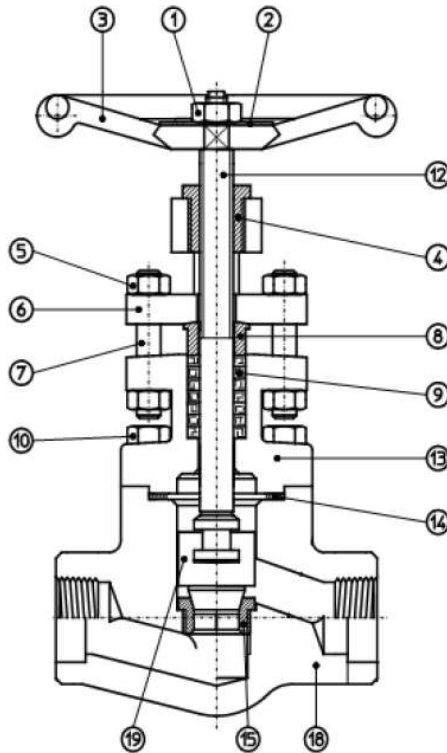
RANGE :

- Forged A105N carbon steel globe valve TRIM 8 with Socket Welding ends **Ref. 412** DN 10 to DN 50 (NPS 3/8" to DN 2")
- Forged A105N carbon steel globe valve TRIM 8 with NPT threaded ends **Ref.413** DN 10 to DN 50 (NPS 3/8" to DN 2")
- Forged A105N carbon steel globe valve TRIM 8 with BSP cylindrical threaded ends **Ref.414** DN 10 to DN 50 (NPS 3/8" to DN 2")
- Forged A182 F316 stainless steel globe valve TRIM 10 with Socket Welding ends **Ref.452** DN 10 to DN 50 (NPS 3/8" to DN 2")
- Forged A182 F316 stainless steel globe valve TRIM 10 with NPT threaded ends **Ref.453** DN 10 to DN 50 (NPS 3/8" to DN 2")

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### MATERIALS:

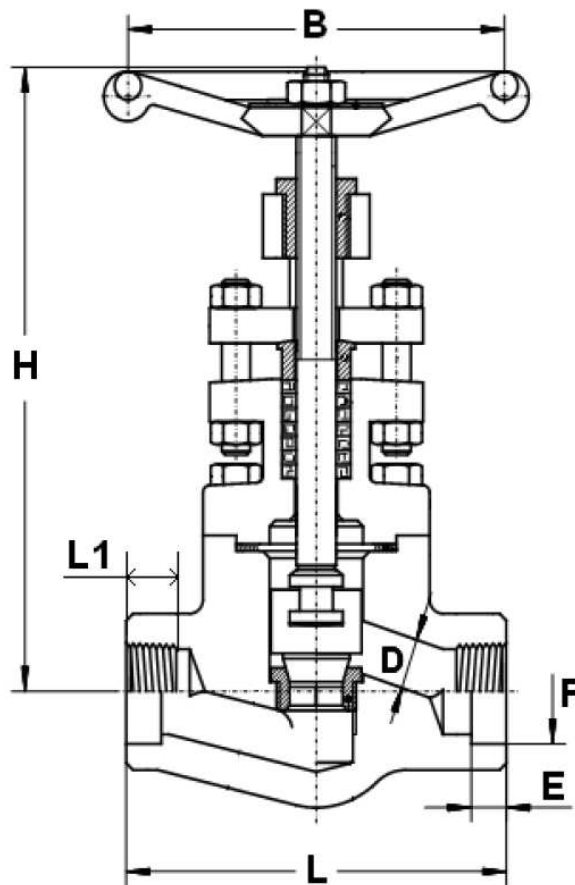


Item	Designation	Materials 412/413/414	Materials 452/453
1	Wheel nut	Carbon steel	Carbon steel
2	Name plate	Aluminium	Aluminium
3	Handwheel	Carbon steel	Carbon steel
4	Yoke nut	ASTM A582 type 416	ASTM A582 type 303
5	Gland nut	ASTM A194 2H	ASTM A194 GR.8
6	Gland flange	ASTM A105	ASTM A182 F304
7	Gland stud	SS 410	ASTM A193 B8
8	Gland	ASTM A276 type 410	ASTM A479 type 304
9	Packing	Graphite	Graphite
10	Bolts	ASTM A193 B7	ASTM A193 B8
12	Stem	ASTM A276 type 410	ASTM A479 type 316
13	Bonnet	ASTM A105N	ASTM A182 F316
14	Gasket	SS 316 + graphite spiral wound	SS 316 + graphite spiral wound
15	Seat	ASTM A276 type 410 + Stellite GR.6'	ASTM A479 type 316
18	Body	ASTM A105N	ASTM A182 F316
19	Disc	ASTM A276 type 410	ASTM A479 type 316

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SIZE ( in mm ) :



Ref.	DN (mm)	10	15	20	25	32	40	50
	NPS (")	3/8"	1/2"	3/4"	1"	1"1/4	1"1/2	2"
412/413/414 452/453	Ø D	9	9	13	17.5	22.5	29.5	35
	L	80	80	90	110	127	155	170
413/414/453	H ( open )	148	148	165	180	213	248	257
	Ø B	90	90	90	110	130	130	180
413/414/453	L1	13	15	18	19	20	21	21
412/452	E ( SW )	11.1	12.7	14.5	16	17.5	19	22
	Ø F ( SW )	17.6	21.72	27.05	33.78	42.54	48.64	61.11
412/413/414	Weight ( Kg )	1.9	1.9	2.14	3.42	5.14	7.06	11
452/453	Weight ( Kg )	1.9	1.9	2.18	3.52	5.3	7.3	11.3

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STANDARDS :

- Fabrication according to **ISO 9001 : 2008**
- **DIRECTIVE 97/23/CE : CE N° 0036**  
Risk category III module H
- Designing according to **ISO 15761** and **API 602 8th**
- Pressure tests according to **API 598, table 6**
- Approval certificate Russian Federation **GOST-R**
- Valves approved by the main oil industries ( certificates on request )
- **ATEX Group II Category 2 G/2D Zone 1 & 21 Zone 2 & 22** ( optional marking )
- Threaded female BSP cylindrical ends according to **ISO 7-1 Rp**
- Threaded female NPT ends according to **ANSI B1.20.1**

### INSTALLATION INSTRUCTIONS

#### GENERAL GUIDELINES :

- Ensure that the valves to be used are appropriate for the conditions of the installation (type of fluid, pressure and temperature).
- Be sure to have enough valves to be able to isolate the sections of piping as well as the appropriate equipment for maintenance and repair.
- Ensure that the valves to be installed are of correct strength to be able to support the capacity of their usage.
- **Installation of all circuits should ensure that their function can be automatically tested on a regular basis (at least two times a year).**

#### INSTALLATION INSTRUCTIONS :

- **Before installing the valves, clean and remove any objects from the pipes** (in particular bits of sealing and metal) which could obstruct and block the valves.
- **Ensure that both connecting pipes either side of the valve (upstream and downstream) are aligned** (if they're not, the valves may not work correctly).
- **Make sure that the two sections of the pipe (upstream and downstream) match, the valve unit will not absorb any gaps. Any distortions in the pipes may affect the tightness of the connection, the working of the valve and can even cause a rupture. To be sure, place the kit in position to ensure the assembling will work.**
- **During welding operation, for S.W. types half open the valve and do not exceed 350-400°C**
- The theoretical lengths given by ISO/R7 for the tapping are typically longer than required, the length of the thread should be limited, and **check that the end of the tube does not press right up to the head of the thread.**
- **Never use a vice to tighten the fixings of the valve.**
- **If sections of piping do not have their final support in place, they should be temporarily fixed. This is to avoid unnecessary strain on the valve.**
- It may be necessary to screw the packing gland during using according to the type of use.
- **Do not use a tool to shut the valve**
- **Fluids in the valve must not contain solid objects ( it could damaged the seat ).**
- It's recommended to operate the valve ( open and close ) 1 to 2 times per year